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China Report

AGRICULTURE

No. 159



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CHINA REPORT

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I. GENERAL INFORMATION

DIVERSIFICATION IN FARM VILLAGES BRINGING INCREASED DEVELOPMENT

Beijing NONGCUN GONGZUO TONGXUN [RURAL WORK NEWSLETTER] in Chinese No 5 1981
pp 2-6

[Article by the State Agricultural Commission: "Report on the Active Development of a Diversified Rural Economy"]

[Text] Diversification in Farm Villages Have Realized Welcomed Development

Since the Party's Third Plenum of the 11th Party Congress, as the "leftist" mistakes on the agricultural front is being corrected and the various farm village economic policies are being implemented, a good situation in agricultural production which has rarely been seen since the founding of the nation has emerged.

Food grain production increased by a greater extent. Some major economic crops and forestry, livestock production, sideline production and fishery also showed welcomed development. Total income of commune and brigade enterprises was 56.5 billion yuan, an increase of 12 percent over the previous year. In general, the past trend of singular emphasis on food grain production and neglecting economic crops and forestry, livestock production, sideline production, fishery and other diversifications has begun to change.

For the past 2 years, the distribution of agricultural crops and the planting system have also been readjusted. The multiple planting areas of some inappropriate food grain crops have been reduced. Correspondingly, the sowing areas of some economic crops have increased. Some planting areas were returned for forestation, and some planting areas were returned for livestock production. Through readjustment costs have been reduced, waste has been reduced, and the income of the farmers has visibly increased. Increases in food grains have activated diversification, and diversification has promoted increased production of food grains. The achievements of readjustment have been visible. Although many communes and brigades suffered from natural disasters rarely seen during the past several decades, damage could not be seen in the disaster areas. The farmers are happy, the farm villages are prosperous, and a happy scene exists.

Development of Diversification Is an Objective Need

Surveys and studies of the past 2 years have shown that the present productive structure in our nation's agriculture and the ratio among farming, forestry and livestock production are still not rational. A long process of readjustment is still required to build a foundation of a beneficial cycle.

The people's need for agricultural products is varied. A good development of diversification will directly affect the income of the farm village collective and the individual. The development of light industry and will also directly affect the needs of the broad masses of people in cities and villages. In the past, because of singular pursuit and neglect of diversification, the level of consumption of the people up to now is still very low. In 1980, each person had an average of 646 jin of food grains, 5.4 jin of cotton, 5.5 jin of edible oil, 5.7 jin of edible sugar, 8.4 jin of aquatic products, 23 jin of pork, beef and mutton, 2.2 jin of milk, and only 0.29 jin of tea after deducting exports. For the urban population, per capita average of chicken eggs was only 7 jin. The level is already low enough, and if the past method continues, this conflict will become more and more outstanding.

Secondly, our nation has a large population, less cultivated land, frequent natural disasters, backward technology, but our nation's land is expansive, natural resources and labor resources are rich, there are many avenues for production. This condition has determined that our nation must actively develop diversification while assuring increases in food grain production so that the advantages can be developed and shortcomings can be avoided to develop the two advantages of expansive land and large population and overcome the disadvantage of less cultivated land. If work is done only on cultivated land which constitutes only one-tenth of the nation's territory but not in the area of mountain regions and grasslands, rivers, lakes and beaches which constitute nine-tenths of the nation's soil, the farmers will not become rich easily. Practice proves that the only way for farmers to change from poverty to prosperity is by developing diversification.

Agricultural production is seasonal, practicing diversification can yield a mutual balance of the needs for production and labor forces in each period of the entire year so that the departments with different working seasons can be managed in a coordinated way to benefit increases in the rate of utilization and the rate of production of the labor forces. This can also lead to suiting measures to the available talent, each person can fully exercise his talent so that each type of labor force can develop its talent and fully serve its function to solve the problem of employment in farm villages. It can utilize the shortcomings to advance the advantages, "utilize sideline production to stimulate agriculture," hasten turnover of capital, and increase the income of the collective and the individual commune members. At the same time, it is beneficial to creating a good ecological environment in agriculture, and can increase export commodities and develop the ability to earn foreign exchange.

For many years in the past, diversification was actually limited. During one period, diversification was even criticized as capitalism, creating great dangers.

Although the situation has changed during the past 2 years, some unilateral viewpoints that have been formed over a long period still exist seriously in the minds of some comrades. As a habit they put these viewpoints into practice, lack understanding of the necessity of readjusting the productive structure, as soon as they see a slight problem in a certain point, do not analyze it but negate it, and they return to their old ways. Therefore, continuing to correct the leftist mistakes in farm villages at present and further correcting the ideological line are still the prerequisites of implementing the principle of suiting measures to local circumstances and developing diversification.

There Are Broad Openings for Developing Diversification in Farm Villages

The area of mountain regions and hilly regions in our nation is expansive, constituting over 60 percent of the nation's area of land. Resources are rich and treasures can be found everywhere. In the past, Youyu County in Shanxi Province was called "infertile land." Since 1958, trees have been planted and the land has been forested year after year. The forested area developed from the original 8,000 mu to 760,000 mu, nearly 10 mu per person. The percentage of coverage by forests increased from 0.3 to 27.6 percent, becoming an "oasis on the frontier." In 1979, the average yield of food grains per farmer was 780 jin, each family raised an average of seven head of hogs and sheep, and 1.2 head of large livestock. In the mountain regions, woody oil bearing plants, tea, fruits and other economic woody plants can also be developed massively. Now, our nation's production of tung oil seed, lacquer, tussah silkworm cocoon, walnut, and Chinese chestnut has not yet reached the highest yield in history and the potential is great.

Our nation's plant resources are rich: there are over 30,000 species throughout the nation. Fully utilizing these resources can provide various raw materials for industry and can also produce various foods and daily commodities. We must develop the production of aromatics, food spices and drinks in a big way. We suggest that the related departments of light industry and commerce draw up a development plan to promote the development and utilization of resources.

At present, economic development of the mountain regions is slow mainly because the problems of food and clothing for the masses have not been solved well. As long as the nation appropriately cares for them with food and capital to enable the masses to overcome their difficulties, and at the same time, pays attention to the development of transportation in the mountain regions and manages the circulation link between procurement and marketing well, after several years, results will be realized. Now, Zhejiang, Shanxi, Yunnan, Guangxi and Sichuan provinces and regions have all directed their attention to such work and good results have been obtained.

Livestock production and grassland for grazing regions of course have great potential which can be exploited. Construction of grasslands should be strengthened and rational raising of livestock should be implemented according to already established guidelines to increase the rate of production. At the same time, we should see that over 90 percent of the nation's meats are supplied by the farming regions, not only should hogs and domesticated fowl be basically raised in farming regions, but herbivorous livestock should also be mostly

raised in farming regions. There is 1 billion mu of grass mountains and grass slopes in the farming regions, 200 million mu of coastal beaches, and 1.5 billion mu of agricultural crops that produce stems and husks and bran. The natural conditions are good, labor forces are plentiful, and farming and livestock production can mutually promote each other. The masses urgently demand that planting and livestock production be carried out together. In particular, it is even easier to motivate the farming families to privately raise such livestock. As long as the policy suits the need, little investment is needed, and such efforts can be rapidly developed. The four levels of the county, commune, brigade and production team of Qiongzong County on Hainan Island operate a total of 746 cattle farms, with the addition of privately raised cattle, the total number of domesticated cattle throughout the county in 1979 reached 37,000 head, an average of 2.5 head per family. If the grass mountains and grass slopes can be fully utilized to raise superior breeds of livestock, cattle raising will be able to increase in multiples. Which part of the southern mountain regions is suitable for forestation and which is suitable for livestock production must be determined by investigation. Most of the grass mountains and grass slopes, according to soil conditions, are unsuitable for grazing and livestock production, and cutting grass and raising livestock in fenced areas should be advocated to avoid destruction of the vegetation of the grass mountains and grass slopes and loss of water and soil. The grassy mountains and slopes in the south are of acidic soil, the quality of grass is poor, and some grasses cannot be fed to livestock. This needs to be studied by specialists organized by agricultural science and research departments to find a way to gradually reform these grassy mountains and slopes.

Aquatic production is still lingering at a very low level. Fishing in the coastal seas has already been excessive. We should insist on implementing regulations to limit excessive fishing to facilitate propagation of such resources. Aquatic production during the 1980's will mainly depend upon the development of raising aquatic products. This must be firmly established. At present, the water surface area of fresh water culture constitutes only 55 percent of the area of water surface which can be utilized. The area of sea water culture constitutes only 23.6 percent of the area available for culture. The water surface is not only utilized to a small extent, but the yield is also very low. Pisciculture in ponds in Guangdong Province produced an average per mu yield of 346 jin in 1979. Some high yielding communes and brigades realized a per mu yield surpassing 1,000 jin, some even reached 3,000 jin, while the national average was only 96 jin. We should mobilize all active factors to strive to basically utilize all areas of fresh water usable for pisciculture, to utilize half of the area of sea water usable for aquatic culture and to strive to increase unit yield. In this way, we can suppress the intensity of catching in coastal waters and protect resources and at the same time sustain our nation's greater increase in the yield of aquatic products. Each level of the aquatic production departments should grasp in a big way the propagation of fry and organize the supply of fry well.

Correctly Handle the Relationship Between Food Grain Production and Diversification

Since Liberation, the yield of food grains increased twofold. The problem of feeding a population of 1 billion has been solved. Large scale capital construction of farmland has been carried out, the achievements have been very great and they should be affirmed. The shortcoming is that insufficient attention has

been given to economic gain. In the past, some localities went contrary to planting according to the local circumstances, unilaterally emphasized taking food grains as the key link, expanded the sowing area of food grain crops in areas unsuitable for planting food grains, and even reclaimed with disregard, destroyed forests and reclaimed wasteland, blindly encircled land of lakes and seas to create fields, and built man-made plains. The investment was large, a lot of effort was exerted, the gains were few, and the gain could not make up for the losses. Some other places blindly expanded the multiple planting index, expanded the planting area of high yielding crops, squeezed out bean crops and miscellaneous grains, forming an irrational planting system and causing decreased soil fertility. Because the planting was irrational, a lot of labor, capital and energy resources were wasted in drought resistance, draining waterlogged conditions and in irrigation. This way of doing things without regard to cost and economic results has caused the masses to suffer. Experience shows that unilaterally grasping food grains is contrary to the wishes of the masses.

At present, our nation's food grain production has still not overcome its difficulties. The production of food grains cannot increase, diversification cannot be developed, and the entire situation of the national economy is affected and even political stability is affected. Therefore, food grain production cannot be carelessly managed, it must be grasped very tightly. That which is to be corrected is not emphasizing food grain production, but the unilateral policy of a singular grasp of food grains and the neglect of diversification. Developing food grains by suiting measures to local circumstances should not be opposed but should be actively encouraged.

The key problem is to rationally arrange the area of planting so that food grain crops and economic crops can maintain a rational proportional relationship. During the recent period, our nation's food structure cannot undergo a large change. Because of the limitations of the present productive conditions, we cannot depend only upon digging the potential of unit yield; we must also maintain a definite planting area. Nationally to place food grain production in an important position, the sowing area of food grains must be kept basically stable but we must not negate the necessity of continuing readjustment. Some comrades worry that readjusting agricultural distribution will reduce the area for food grains and will affect increased production of food grains. Viewing the results of readjustment of the past 2 years, we see that this kind of worry at least at present is unnecessary. This is because:

1. Readjustment during the recent 2 years has actually reduced a part of the area of food grains but the reduction has all been in the area of multiple planting due to blind expansion of the past. This part of the multiple planting area does not have suitable conditions and the yield did not increase but decreased and at some places, even though yield increased, because the cost of production was too high, income decreased, and the so-called high yielding poor production teams emerged. The masses expressed many opinions, and such efforts could not continue. In expanding the area of economic crops, oil bearing crops were expanded more and a fairly large part utilized saline and alkaline land to plant more sunflower. In the north, the area of beets was expanded and this mostly utilized this type of land. This is beneficial, not harmful. Although some economic crops, such as the planting area of cotton, increased in

area, only the area that was squeezed out was restored, and up to now the highest level of planting in history has not been restored.

2. The yields of agricultural crops do not necessarily increase as the sowing area increases or as the sowing area decreases. The key is to see if measures are suited to local circumstances, whether planting is rational and refined. The experience of many localities during these 2 years has proven that as long as measures are truly suited to local circumstances, as long as the crops are arranged appropriately, as long as corresponding measures are implemented, even though the area is smaller, increased yields in food grain crops can still be realized, and diversification can also be stimulated. In 1980, Zuanhua County in Hebei Province utilized the achievements of zoning to readjust crop distribution and the planting system, reduced the area of two croppings a year and increased the area of triple croppings in 2 years, and actively developed forestry and livestock production. That year, food grains increased by 65.16 million jin, creating the highest level in history. Peanuts increased 55.3 percent, the number of sheep increased 6.6 percent, total income increased 5 percent, and distributed income of commune members increased 13.4 percent.

3. The ways to develop diversification are many; they are not equal to just the development of economic crops. Many such diversification efforts do not occupy land. Even many economic crops do not take up farmland at all and they do not affect food grain production. Diversification has in turn provided a very good ecological environment and conditions for food grain production, therefore it should be developed freely.

Readjustment of the structure of agricultural production and readjustment of the distribution of agricultural crops so that it will be rational are strategic tasks in agricultural production, and they must be insisted upon without wavering. But, the steps must be steady. Especially in the readjustment of the planting area, efforts should not be too hasty and too drastic. They should be carried out under the prerequisite of maintaining continued increases in the yield of food grains. Each locality, when considering the superiority of the locality, must also coordinate efforts with state plans. Each locality must not blindly expand economic crops and squeeze out or take up areas for food grain crops. It also must not return to the old way of grasping only increases in food grain production and squeezing out diversification. Whether food grain crops or economic crops, emphasis should be placed on efforts to increase unit yield, and one must not limit one's ideas to manipulating the area. The general requirement is not to let go of food grain production but to actively develop diversification so that all efforts will realize their goals and all efforts will be mutually complementary.

Several Problems That Must Be Further Solved Well in Developing Diversification

(I) Each level of the party committee and government and concerned departments must do the work well in surveying the resources of the local area, planning for production and zoning. It should fully develop the superiority of the local region and suit measures to local circumstances to draw up plans to develop diversification. In the use of capital and materials to support agriculture, support for diversification must be regarded as an important aspect, and concrete

guidance must be given to management and operation. Construction of small towns must be developed by combining with the development of diversification relying on the strength of the collective economy. This is significant not only to the needs of commodity exchange between cities and villages, but also to the propagation of advanced science and culture to the farm villages, changing the distribution of the entire economy of the nation, and gradually closing the differences between the towns and the villages.

(II) The policies must be relatively stable and must realize their promises in time. Since the Third Plenum, the series of policies established by the Party Central Committee and the State Council, such as the policies of rewards for various agricultural sideline products, the policies to encourage and support the masses to develop family sidelines, and the series of policies established last year to link cotton and food grain production and link sugar and food grain production have all served greatly to promote the development of diversification. They should be kept relatively stable. Some policies, such as policies involved with sidelines of commune families, private plots and private mountains and planting trees by individual commune members must be approved by the legislature and must not be changed for a long time so that the masses can plant and develop them without fear.

Diversification methods are broad, most can be managed separately. Each locality should insist that the communes and brigades manage diversification or insist on joint management by communes and brigades, but at the same time, each locality should actively reward and support commune members to develop family sidelines and the planting of private plots, and allow "private persons," i.e., each family can have a few members who dedicate themselves specifically to the management of the family sideline and private plots. Where conditions are good, some private plots can be appropriately expanded. The upper limit of private plots can reach 15 percent of the area of cultivated land. There are many advantages to appropriately expanding private plots. One is that it can fully utilize auxiliary labor forces. The second is that it can increase the varieties of agricultural sideline products and supplement market needs. The third is that it can develop and improve the farmer's technical skills. The fourth is that it can increase the income of farmers. The fifth is that it can benefit preparations against disasters and hunger.

The prices of certain agricultural products must be gradually readjusted appropriately. In 1979, after the procurement prices of 18 types of major agricultural products were increased, the varieties of products that were subjected to price increases, such as flue cured tobacco, tung oil seeds, relatively speaking, were not as beneficial than other types of crops, the enthusiasm of the farmers was affected, and the yields gradually dropped. It is suggested that when considering commodity prices, one must also study price increases or returning a part of the industrial and commercial profits so that the productive units will have a definite gain. This will promote the development of production.

During the recent 2 years, each locality has implemented the responsibility system to counting salary in joint production by contracting work to the units, families and individuals specializing in such production. This has brought visible

effects in developing diversification. Practice proves the form of production by specialized units and specialized families is a good way to increase the economic results and to develop specialized production under our nation's present level of production. To support specialized production, some localities have carried out some measures. The Xigu Ward in Lanzhou City in Gansu Province implemented several methods for specialized families to engage in livestock production. The bank provided loans to some specialized families to help solve the difficulty of insufficient capital. The food trains department organized the supply of feed or the masses themselves established a collective feed production and supply cooperative to give conveniences to the specialized families. The veterinarians of wards and communes were assigned to go deeply to the families to help prevent and control disease. The materials department provided timber and cement to the new specialized families to build pens and tents. Concerned departments actively organized and provided superior breeds of livestock and fowl, popularized the knowledge of scientific feeding and provided measures to prevent diseases. These experiences are worth summarizing, improving and are actively popularized.

(III) Developing diversification is like food grain production, it has to rely on science and technology. In planting crops and raising livestock, the first thing is to cultivate and popularize superior varieties. In recent years, our nation's work in cultivating and breeding superior breeds of livestock has already established a preliminary system. At present, strengthening the work of popularization is especially needed to expand the results. In planting, impure, mixed and degenerate seeds are relatively serious, diseases and insect pests have increased, greatly affecting the yield. Some original seed farms and superior seed propagation zones must be established according to plan. In regions of concentrated cotton production, some cotton ginning mills for superior varieties should be established to avoid mixing.

Secondly, the problems of feed and food for domesticated fowl and fish and shrimp must be solved well. In foreign nations, the study of combined feed already has a history of over half a century. For the past 30 years, because of the improvement in feed, the cycle for raising meat chicken has been shortened by half and the amount of feed has been reduced by half. In 20 years, the cycle for raising beef cattle has been shortened an average of 50 to 70 days, the efficiency of feeds has been increased by 20 percent. Work in this regard is very important to our nation. But work in this regard is very weak, in particular the amount of protein in feed is extremely deficient, the amino acid industry is basically a void. In the future, construction of the feed industry should be especially strengthened to fully utilize the various sideline products of agriculture and livestock production, increase the rate of utilization of feed so that our nation's limited feed can produce more products. In raising fish and shrimp, besides supplying necessary meal, many localities have utilized biological cycles, combined the raising of silkworms, hogs and fish and the results are good. This should be advocated.

The third is to do the work in animal and plant protection well. Now, diseases of livestock and fowl and plant diseases and insect pests affect production greatly. Forceful measures must be taken to control the ten types of serious

diseases of livestock and fowl as soon as possible, hog cholera, fowl plague, brucellosis, blood fluke, infections anemia of horses, glanders, sheep pox, sheep mange, contagious pleuropneumonia of cattle and foot and mouth disease; to control the spread and development of dendrolimus spectabilis, pine coccus, oil tea looper, early needle cast disease of larch which are diseases and insect pests that seriously harm forests; to basically control armyworms, aphids, cotton boll worms which are crop insect pests.

(IV) The problems of processing, storage and shipping must be solved well. Diversification is mainly production of commercial products. The greatest worry of the farmers is that their products cannot be sold. For over 30 years, in developing diversification in our nation, some products have been developed like fads, "when there is less, one looks everywhere, when there is slightly more, nobody wants any more." This lesson is profound. There are many reasons that created this problem. One important factor is that processing, storage and shipping of products at present do not suit the demands, the funds for procurement are too scarce, and this problem has to be conscientiously studied and solved, some of the procurement work must be improved.

Our nation's processing industry of agricultural sideline products is very backward. There are many blanks. Development of the food processing industry can improve the rate of utilization and the prices of agricultural sideline products and can also greatly reduce the difficulties in storage and shipping. There are many products that have to be processed before they can become commercial products, such as actinidia chinensis. Our nation has plenty of wild resources, but because problems of processing have not been solved, the resources cannot be utilized very well.

To solve the problem of coordination among production supply and marketing, foreign and domestic market forecasts must also be developed and the arrangement of production must be done well according to the actual conditions of each locality. To prevent surplus or shortage of certain products, we must assure that the state procurement tasks are fulfilled, and we must not short change the farmers, we need to popularize the contract system in a big way so that the state and the people both know what we have. At the same time, prices of some agricultural sideline products can be allowed to float somewhat to regulate production. We must protect competition and develop the enthusiasm of all aspects to enliven the economy.

Developing diversification involves many aspects. It is related to the production and the supply and marketing departments, it is also related to the departments of planning, financial administration, taxation, banks, prices, commodities, industries, transportation, scientific research, industrial and business administration and management. Common efforts are needed to strengthen concrete guidance and support, and some problems in development must be studied and solved in time so that faster development can be realized.

In general, we must firmly believe that our nation has 800 million hard working and intelligent farmers, rich natural resources, a glorious socialist system, and under the correct leadership of the Party Central Committee and the State

Council, by following the lines and the policies of the Party's Third Plenum, after 20 to 30 years of efforts, we will surely cause a relatively big change in the productive structure of mainly producing singular food grain crops and the food structure of mainly food grains formed over a long period in our nation, and we will build a new farm village that has an overall development in agriculture, forestry, livestock production, sideline production and fishery production, that has a comprehensive management system for agriculture, industry and commerce, that has a beautiful environment, that has a rich life and a developed culture. This goal will surely be achieved.

(Taken from the "Report Concerning the Active Development of Diversified Farm Villages" of the State Agricultural Commission transmitted by the Chinese Communist Party Central Committee on March 30, 1981, the editor of this magazine has deleted some parts of the report)

9296

CSO: 4007/478

BRIEFS

FISH PRODUCTION INCREASE IN TWO PROVINCES--The implementation of fish production responsibility systems in rural areas of Hubei and Hunan has greatly increased the production of freshwater fish in these two provinces. In 1980, Hubei and Hunan produced 23.3 and 34 percent more fish respectively than in 1978. Further increase has also been reported this year. [Beijing RENMIN RIBAO in Chinese 21 Jul 81 p 2]

CSO: 4007/540

BELJING FLOOD CONTROL PROJECTS REVIEWED

Beijing **BELJING RIBAO** in Chinese 8 Jul 81 p 1

[Article: "Post Liberation Building of Reservoirs and Dredging of Rivers Reduces Calamities. In Former Days, Beijing Averaged a Flood Disaster Once Every 1.5 Years"]

[Text] Achievements in the building of flood control projects for Beijing during the past 30 years have been remarkable, and ability to prevent floods has vastly increased.

Before the founding of New China, during every flood season the Beijing area had serious flood disasters. Statistics for the most recent 600 years show the occurrence of 387 fairly serious flood disasters, or an average of one every 1.5 years. Several times in history, the Yongding River breached its banks and changed course, and came to be called the Wuding River [Wuding being uncertain in contrast to Yongding meaning forever certain]. In 1801 and again in 1890, it flooded Beijing and several hundred li became a vast expanse of water. The Chaobai River was similarly unruly. It flooded in 1937, completely washing away a reinforced concrete bridge across it.

Following Liberation, the party and government began in 1951 the planned construction of flood control projects, and over a period of 30 years, more than 875 million yuan has been invested in related flood control capital construction. Now the city has built 17 large and medium size reservoirs including Guanting, Miyun, Huairou, and Shisanling with a flood control capacity of more than 3.1 billion cubic meters. They can contain flood waters that would cover an area of 16 million square miles to a depth of 2 meters. Additionally 67 small reservoirs have been built. These are located in every quarter. The major streams, Yongding River, Chaobai River, and Beiyun River have also been brought under control. A total of 980 kilometers of flood control and drainage rivers have been dredged, and dikes rebuilt and strengthened. This is equal to four times the distance back and forth between Beijing and Tianjin. As a result of the building of the Yongding Reservoir and the strengthening and increasing of the height of river dikes, not only in the Yongding River Gorges, but in other sections of the Yongding River as well, the threat to the people's lives and property from flood waters has been brought under control. Following construction of the Miyun Reservoir, the Chaobai River has also become submissive. As a result of the building of this reservoir, grain damage equivalent to more than 800 million yuan in value has been averted. As a result of the dredging

and strengthening of the dikes of the Baiyum River, 88 percent of a readily flooded area of 2.5 million mu has been improved.

The city cannot lower its guard now, however; it must continue to build flood control and drainage projects to eliminate entirely the threat of floods.

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CSO: 4007/523

FUJIAN

BRIEFS

RICE HARVESTING—As of mid-July, Fujian's Minqing County had harvested 16,000 mu of early rice, twice the figure for the same period last year. [OWO41235 Fuzhou Fujian Provincial Service in Mandarin 1120 GMT 25 Jul 81]

SOYBEAN PRODUCTION—By growing soybeans in single-crop ricefields in spring instead of autumn, Datian County, Fujian, has reaped more than 1.4 million jin of soybeans this year, 8 times more than last year. [OWO41235 Fuzhou Fujian Provincial Service in Mandarin 1120 GMT 26 Jul 81]

CSO: 4007/541

BRIEFS

CROP OUTPUT--Lanzhou, 20 Jul (XINHUA)--Anxi County in Gansu has rapidly developed agricultural production since liberation. In the past 31 years, the country's total grain output has increased from 13 million jin to 83 million jin and cotton from 51,000 jin to 320,000 jin. Last year, the country's per capita grain output and procurement were 1,888 and 780 jin respectively, topping other counties in the province. In the past 3 decades, the county has afforested 21,700 mu land and 3,600 shelterbelts of various lengths, totaling 1,800 km and planted 10.41 million trees. [OWO41043 Beijing XINHUA Domestic Service in Chinese 0201 GMT 20 Jul 81]

CSO: 4007/541

PEASANTS TO RECEIVE HIGHER PRICES FOR GRAIN OUTPUT IN EXCESS OF QUOTA

Guangzhou NANFANG RIBAO in Chinese 15 Jul 81 p 1

[Text] Beginning this year, Guangdong Province has instituted fixed work quotas in the purchase, sale, and transportation of grain and oil, guaranteeing no change for a period of 3 years. This is a reform in the province's grain and oil management system. Implementation of a 3 year guaranteed policy on requisition purchases of grain and oil is helpful in stabilizing the peasants' burdens and in having production teams, acting under the guidance of the state plan, adapt general methods to local situations for a readjustment of agricultural production patterns to promote all around growth in grain and economic crops.

In order to lighten the peasants' burdens, increase the peasants' benefits, and arouse their production initiative, in this implementation, overall requisition purchase quotas and requisition purchase base figures have been suitably readjusted. In minority nationalities areas, old Soviet areas, part fishing, part salt making, and part farming areas, and other areas having low consumption grain production teams where the annual amount of grain for consumption is less than 400 jin of unprocessed food grain, as well as in key forest area communes where annual consumption grain amounts to less than 420 jin but where the production teams are responsible for requisition purchase quotas, suitable reductions have been made in requisition purchase quotas for grain, bringing about a rise in the level of their consumption grain. In old commodity grain producing areas, emphasis has gone to solving the problem of high base figures for requisition purchases, the proportionately small amount paid for purchases in excess of quotas, and the smallness of economic benefits. At the same time, in order to give support to commodity grain production in grain growing areas, price subsidies have been instituted. In making these subsidies, the production teams are the basic units. For every 100 jin of paddy in excess of a 300 jin average per capita annual base figure for requisition purchase sales to the state, a subsidy of 3 yuan will be made. It has been calculated that once readjustment has been made in the proportional difference between price paid for requisition purchased grain and grain purchased in excess of quota, the province's peasants will realize an increase of more than 42 million yuan in income from the increase in price paid for grain sold to the state in excess of quotas. From the sale of edible oil in excess of requisition procurement quotas, they will realize an additional more than 10 million yuan plus award sales of 100,000 tons of chemical fertilizer.

FURTHER INCREASES IN HYBRID RICE GROWING AREA

Guangzhou NANFANG RIBAO in Chinese 13 Jul 81 p 1

[Article: "Benefits From Growing of Hybrid Rice Very Great. Expansion of Growing Areas of This Variety As a Late Crop in Sanshui and Shixing Counties"]

[Article] "Sanshui County has conscientiously studied its own and other counties' experiences in the growing of hybrid rice for active and steady development of hybrid rice. This year the county plans to grow 30,000 mu of hybrid rice as a late crop.

This year the county test planted almost 200 mu of hybrid rice as an early crop in communes having different kinds of terrain for yields that were generally about 200 jin per mu higher than for other varieties. The County CCP Committee and the county government promptly convened on-site meetings for on the ground appraisal of this variety. Meanwhile, the county and some communes organized 400 grassroots level cadres to go to Enping County to inspect and study so that everybody would have a deeper understanding of the superior characteristics of hybrid rice, and would have increased confidence about and determination to promote the growing of hybrid rice.

In order to assure that planting of hybrid rice would be done well, this county purchased more than 63,000 jin of seeds from elsewhere, at the same time giving attention to training people in fertilization, pesticide, and cultivation techniques. They also invited 17 peasants with practical experience from Enping County, whom they assigned to each commune to guide the planting of hybrid rice.

Shixing County conscientiously summarized many years experience in production and has persevered in reliance on science to win high yields, this year putting into effect a plan for the growing of more than 95,000 mu of hybrid rice as the late crop throughout the county. This amounts to 64 percent of the planned late crop planting area.

In view of the location of Shixing County in the mountain area of northern Guangdong where the "cold dew wind" comes early on the late crop and where rice output is neither high nor consistent, the county began the introduction of hybrid rice in 1976, and got a taste of the benefits to be had from growing it. From 1977 onward, the county extended its cultivation generally, and by last year hybrid as a late crop was being grown on more than 41,000 mu for yields and averaging more than 700

jīn per mǔ of dry paddy, between 130 and 150 jīn per mǔ more than from other varieties. The County CCP Committee diligently summarized experiences with the late crop last year in mountainous Aizi and Siqian communes, where greatly increased yields were harvested from the planting of hybrid over wide areas. They helped cadres and masses get rid of their apprehensions and make up their minds to do a good job of planting hybrid rice. This year, the county grew more than 95,000 mǔ of hybrid rice as a late crop, double the amount grown during the same period last year. Now, all jurisdictions are devoting themselves to sowing and propagation of seedlings, making ready for early transplanting to win a bumper harvest from the late crop.

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CSO: 4007/519

SEXUAL PROPAGATION OF AZOLLA TO BE EXTENDED ELSEWHERE FROM GUANGDONG

Guangzhou GUANGZHOU RIBAL in Chinese 9 Jun 81 p 2

[Article: "Guangdong Province For the First Time Promotes Use of 'Ximanjianghong' Azolla Sexual Propagation Techniques"]

[Text] Guangdong has been successful in its first promotion for use over wide areas in production of "Ximanjianghong (American azolla) sexual propagation techniques." For this year's early crop, the province used Ximanjianghong spores in the sexual propagation of plants on more than 16,600 mu. Successful research in this technique opens a new avenue for Guangdong Province in solving the problems of a source of organic material for its rice fields.

Ximanjianghong is a superior azolla variety suited to propagation during winter and spring in Guangdong. In rice fields where Ximanjianghong is grown, paddy yields increase by from several score to more than 100 jin per mu. However, formerly asexual propagation was used with this variety of azolla. Since this azolla's tolerance of heat is poor, taking care of it under the high temperature conditions in summer in Guangdong required much labor and expenditure of large amounts of funds. Thus, to propagate Ximanjianghong over wide areas would entail use of sexual propagation techniques. Seven young researchers in the azolla section of the Soil Fertility Institute of the Provincial Academy of Agricultural Sciences worked more than 3 years on scientific experiments without any data domestic or foreign to consult, finally succeeding in the winter of 1979 in use of spores for the first time to breed sexual plants. This spring the technique was appraised and approved.

Practice has shown the whole sexual propagation technique to be simple and easily done as well as at a great saving in expenditures over asexual propagation. Each commune needs only a few millimeters of azolla growing land from which it can gather spores in order to solve the problem of Ximanjianghong azolla to be tended by the entire commune.

Most recently the Provincial Science Commission decided to issue an award second class for this scientific and technical accomplishment. The Ministry of Agriculture, the Chinese Academy of Agricultural Sciences, and the Provincial Agricultural Commission have made this achievement one of their key projects for which they have allotted special funds for the purpose of promoting its widespread application.

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CSO: 4700/514

FOSHAN FARM OUTPUT FIGURES GIVEN

Guangzhou NANFANG RIBAO in Chinese 13 Jul 81 p 1

[Article: "Foshan Prefecture Has Fulfilled or Overfulfilled State Quotas for Grain, Sugar, Fish, Silk, and Hogs Year After Year; Implements Policies of Third Plenary Session and Liberalizes Development of Commodity Economy"]

[Text] Ever since the Third Plenary Session, Foshan Prefecture, which has always had a relatively well-developed commodity economy, proceeded from realities, implemented the party's economic policies, liberalized development of commodity production, further increased the agricultural byproducts commodity rate, made the peasants prosper with all possible speed, and made a greater contribution to the country. For many consecutive years, the prefecture has fulfilled or overfulfilled the procurement, assignment upward, and export quotas handed down by the state for major agricultural byproducts such as grain, sugar, pondfish, cocoon silk, live hogs, and vegetables. Rural village commercial buying and selling have both thrived, and city and countryside markets present a flourishing picture.

In recent years, Foshan Prefecture has given attention to rational readjustments in the structure of its agriculture. Their principle has been to strive to increase per unit yields of grain from existing cultivated land, simultaneously tapping the land's unused potential to make full use of barren mountains, unused beaches, and water surfaces for the development of diversification centering on farming and the raising of livestock. Despite a 260,000 mu reduction during 1979 and 1980 in the area sown to rice in the prefecture (the equivalent of 130,000 mu of cultivated land annually, or 2.6 percent of the ricefield area), both per unit yields and total output rose. Last year total paddy output increased by 640 million jin over the previous year, an increase of 1.16 billion jin over 1978. Commodity grain provided the state by the prefecture was 1.46 billion jin in 1978 (of which 4.7 million was purchased at a negotiated price), rising to 1.8 billion jin in 1979 (of which 122.44 million jin was purchased at a negotiated price). Last year the amount increased to 2.42 billion jin (of which 593.7 million jin was purchased at a negotiated price). This year, this prefecture further readjusted the structure of its agriculture, principally by converting to the growing of sugarcane some low-lying sandy fields suited to the growing of cane. The prefecture's cane growing area was enlarged by more than 230,000 mu over last year, and the cane is now growing well.

In the process of developing production of commodities, in addition to vigorously supporting commune and brigade operation of the collective economy, Foshan Prefecture

also encouraged the peasants to develop sideline industries, and to do a good job with their private plots and privately tended mountains. The prefecture rehabilitated those peasant households that had suffered criticism for their past development of household sideline industries, and publicized some "10,000 yuan households" who had become prosperous through hard work. In the realm of commodity flow, sensible readjustments were made in monopoly purchases and requisition purchases, and purchases and sales at negotiated prices were enlarged. In addition, the requisition purchase prices paid for some agricultural byproducts were also raised in accordance with national policy regulations, or else price subsidies were given, or the scope of award sales of items enlarged. Following fulfillment of state quotas, producers were free to dispose of their agricultural byproducts as they pleased. Following institution of the policy of "allowing five hogs to be kept for every five purchased in the requisition purchase of pork," by way of maintaining the enthusiasm of peasants for raising hogs, state food departments adopted a policy of stable prices for pork sold at negotiated prices so that those who raised hogs could plan on a profit, thereby assuring that the prefecture would overfulfill fattened hog procurement, assignment upward, and export quotas year after year, and assure supply of fixed and special needs of residents of cities and towns.

The finance and trade departments of the prefecture adopted the integrated operating methods of rural communes and brigades, vigorously developing commodity production bases. Integratedly operated hog farms, and chicken, duck, and goose farms in the prefecture totaled 170. There was also one integratedly operated cow, sheep, rabbit, pigeon, and fruit base. Procurement contracts were used to help communes and brigades operate more than 4,300 hog farms and chicken farms, and more than 7,500 fruit farms. Last year more than 7.07 million chickens, ducks and geese, and more than 136,000 dan of citrus fruit were purchased in the prefecture, for increases of 61.5 and 78.3 percent respectively as compared with 1978. Though a freeze early in the year hurt pondfish output, the quantity marketed was still 2.7 percent higher than for the previous year. Between January and May this year, total value of agricultural byproduct procurement done by commercial and supply and marketing units amounted to more than 263 million yuan, a 2.4 percent increase over the same period last year.

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CSO: 4007/519

BRIEFS

GRAIN AND OIL AVAILABILITY--A new picture in grain and oil sales has appeared in the farflung rural markets of Guangdong Province. Quantities of oil and grain going to market have increased; prices have remained steady; and in quite a few places, rural fair sales prices have gone down. A great drop has also occurred in resale of grain to rural villages by the state. In former years, April and May were the months of shortage when the old crop had all been consumed and the new crop still stood in the fields, and when the amount of grain sold greatly increased, prices in rural fairs rising. This year, however, no shortage has occurred during the shortage months. Statistics from 42 key rural fair markets throughout the province show that during April and May last year, rice sold for an average 0.40 yuan per jin, while this year it is 0.36 yuan, a decline from last year. A gradual shortening is occurring in the gap between the negotiated price and the list price of edible oil. The reason for the increase in the quantity of grain and oil going to rural markets in Guangdong Province and the drop in prices has been that ever since the Third Plenary Session, the party's rural economic policies have been implemented, communes and brigades have proceeded from reality to make rational readjustment in production patterns, and have generally promoted systems of responsibility for production, with the result that output of oil and grain has vastly increased. Whereas it had been forecast that during the shortage period this year the state would have to sell back 240 million jin of grain, the amount actually sold back between March and May was only 84 million jin, a reduction of more than half in the forecast sell back amount. [Text] [Guangzhou GUANGZHOU RIBAO in Chinese 10 Jun 81 p 2] 9432

INCREASE IN SPRING TEA--Guangdong Province joyously harvested a bumper crop of spring tea this year. Statistics as of the end of May show a dried tea output for the province of 79,000 dan, a 9.4 percent increase over last year's all-time high for the same period. Shantou Prefecture had a 10 percent increase, and farms under the jurisdiction of the Provincial Overseas Chinese Farm Administration and the Provincial Farms and Land Reclamation System, each showed increases of more than 20 percent. Since last winter, all the tea producing areas in the province have built up the soil and fertility of tea farms. Numerous tea farms have adopted measures for scientific tea farming and have carried out reforms in old tea plantations to lay down a fine foundation for increases in output of spring tea. Additionally, they have further implemented various forms of a system of responsibility for production, and this plus the institution of price subsidies for purchases of tea by provincial units has aroused the initiative of employees and commune members. [Text] [Guangzhou NANFANG RIBAO in Chinese 11 July 81 p 1] 9432

BRIEFS

RAINS ALLEVIATE HEAT WAVE--Beijing, 4 Aug (XINHUA)--Hot, humid weather, the worst in 40 years, that has lain over Beijing for three weeks, was alleviated by heavy rains August 2 and 3, according to the local meteorological observatory. Between July 18 and August 2, daily temperatures in the Chinese capital averaged almost 30 degrees centigrade, with an average peak of 31.4 on the hottest days. Normally, the hottest daily temperatures for July are 26 degrees centigrade. The rains lowered temperatures by 10 degrees centigrade, said the observatory. Throughout the city, between 30 millimeters and 60 millimeters of rain fell, with the heaviest accumulation being 100 millimeters. The observatory, however, warned the city was still in the midst of the hot season and expected temperatures to rise again in the coming days. [Text] [OW041222 Beijing XINHUA in English 1207 GMT 4 Aug 81]

CSO: 4007/541

HUBEI

BRIEFS

FARM PESTS--(Jin Liang) of the agricultural bureau of Hubei Province, in a recorded talk broadcast by Wuhan radio station on 29 July, called on cadres and the masses in Hubei's rice producing areas to take prompt and effective action to guard against rice leafhoppers and other insects which threaten the growth of 6 million mu of rice, or 40 percent of the total acreage of middle-season rice in the province. He stressed the appropriate use of insecticides and called on the people to pay attention to safety in using insecticides. [OW031435 Wuhan Hubei Provincial Service in Mandarin 1100 GMT 29 Jul 81]

CSO: 4007/541

WATER PROVIDED FOR IRRIGATION DESPITE DROUGHT

Xuzhou Prefecture

Nanjing XINHUA RIBAO in Chinese 9 Jun 81 p 1

[Article, "Xuzhou and Yangzhou Prefectures Resist Drought"]

[Text] Since the beginning of this year, spring has been followed by summer drought in Xuzhou Prefecture. Over 30,000 mechanized wells throughout the region have served their purpose for drought resistance. The wells have irrigated an area of over 3 million mu.

To fully develop the gain of the mechanized wells, each locality has grasped tightly the management work of mechanized wells, popularized the establishment of specialized management teams for mechanized wells, and implemented fixed quota management and the management responsibility system of "five established quotas and one reward." Now, the entire region already has over 13,000 permanent mechanized-well operators. In Xuzhou Prefecture, each locality has emphasized purifying old wells and tightly grasped the work of equipping and repairing wells. From January to May this year, the entire region outfitted 870 pieces of new motorized power equipment and 1,300 newly equipped water pumps, purified 2,500 old wells, and expanded the area of irrigation by more than 100,000 mu.

The broad masses and cadres of each county along the canal in Yangzhou Prefecture started out from the entire situation, joined the struggle to protect the dikes, and assured the safe pumping of water northward by the Jiangdu pumping station to support drought resistance in the Huaibei area.

To provide water sources for drought resistance in the Huaibei region, the Jiangdu pumping station started its pumps on 9 May to draw river water to send to the north. Because the amount of water being sent was large, the water level in the Yunyanhe, the Liyunhe, and the canal south of Gaoyou rose drastically. The water level surpassed the safety level and the level of the dikes, and in some sections dampness in basements and seepage occurred.

To assure the safe shipment of the water, the leadership of the Yangzhou administrative office personally went to key sections of the dike to direct the work. Jiangdu and Gaoyou counties assigned over 170 laborers to organize a

dike-protection patrol to stand guard day and night in order to monitor the situation. Jiangdu County also organized a standby rescue team of more than 1,400 persons to engage in dike protection and rescue work at any time.

Yangzhou Prefecture

Nanjing XINHUA RIBAO in Chinese 9 Jun 81 p 6

[Article: "Yangzhou Prefecture Seizes Tides and Draws Water To Resist Drought"]

[Text] During the past month and more, Yangzhou Prefecture has suffered from continuous drought and there has been little rain. The water level in lakes and rivers has dropped, and it has been difficult to use water for irrigation. The Yangzhou Prefecture flood prevention and drought resistance command headquarters organized the floodgates at Kouan, Madian, and Xiashi on the Yanjiang to seize the tides and draw water, and drew over 1.25 billion cubic meters of river water, basically satisfying the needs for irrigation water in the Tongnan, Yanjiang, and Lixiahe regions. The highest water level at Huangqiao can rise 17 centimeters a day, and it now has reached the optimum water level for irrigation.

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CSO: 4007/472

MORE MEAT, EGGS AVAILABLE IN MARKETS THIS SPRING

Nanjing XINHUA RIBAO in Chinese 4 Jun 81 p 2

[Article: "A Good Situation Not Encountered in Many Years Has Emerged in Our Province's Meat Market"]

[Text] Since the beginning of this year, the amount of foodstuffs such as meat, fowl, and eggs supplied to the market by the various levels of foodstuff companies in our province has continued to increase on last year's base. According to statistics for January to April, the supply of pork increased by more than 14 percent over the same period last year, eggs increased by more than 7 percent, domesticated fowl increased by more than 8 percent, and the supply of beef, reprocessed eggs, and frozen eggs all increased relatively greatly. With active trading in the collective market, the meat markets in all the towns and villages have revealed a good situation that has not been encountered for many years.

Our province is one of the key areas of live hog production in the nation. In 1980, the procurement of live hogs constituted one-seventh of the total amount for the entire nation. The procurement of fresh eggs and domesticated fowl also constituted one-tenth of the amount for the entire nation. This year, each level of government has further strengthened leadership in livestock production. At the beginning of the year, the provincial people's government, noting the downtrend in hog raising in some localities, held a livestock work conference in time and reiterated that the policy of developing hog raising will not change. The result was that each locality stabilized production. Beginning in April, the number of live hogs raised has again risen in seven regions of the province. The number of hogs in pens at the end of that month showed an increase of 740,000 head over the number at the end of March. Also, the number of sows, which at one time had dropped, has again risen. Spring incubation of domesticated fowl is also good. The number of young fowl supplied to the market in Xuzhou, Huaiying, and Yancheng has increased in multiples over last year. At the same time, commercial departments started from supporting production, improved procurement work, and insisted on the pricing policy and the policy of rewarding sales in the procurement of live hogs. Each level of the foodstuff companies popularized the contract procurement system and implemented the practice of "visiting the families to examine the hogs, giving certificates to those who qualified, and setting a time and place for procurement appointments"; the time for bringing the hogs to the market was scheduled to avoid crowding. Thus the difficulty that hog-raising

families had had in "selling their hogs" was solved. To encourage the masses to sell fresh eggs to the state, the foodstuff companies and supply and marketing cooperatives coordinated their efforts, established procurement points for fresh eggs at communes and brigades so that farmers need not leave the brigade to sell eggs, and gave material rewards according to regulations. From January to April of this year, over 56 million jin of fresh eggs were procured--more than the same period last year by over 8 million jin. The number of domesticated fowl and mutton lamb also increased by some 40 to 50 percent over the same period last year.

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CSO: 4007/472

FORMULATED LIVESTOCK FEEDS PROMOTED

Nanjing XINHUA RIBAO in Chinese 16 Jun 81 p 1

[Article: "Jiangsu Province Promotes Formulated and Mixed Feeds For Livestock and Poultry; Promotes Development of Feed Industry and Increases Economic Benefits from Livestock and Poultry Production"]

[Text] The production and promotion from key points to wide areas in the province during the past two years of formulated and mixed feeds for livestock and poultry has promoted development of the feed industry and increased the economic benefits of livestock and poultry production.

In the process of producing and promoting formulated and mixed feeds everywhere in the province, feeding experiments have been conscientiously conducted using all kinds of livestock and poultry. Test feeding have shown that since formulated and mixed feeds contain energy feeds such as corn and wheat, as well as powdered fish, powdered blood, cottonseed cake, and such protein feeds, as well as having trace elements added, nutrients are complete, their proportions are proper, and as a result their use in feeding livestock and poultry effects savings in the use of grain for feed, increases the return from the feed, shortens the feeding period, and promotes output and earnings from the livestock industry. Experiments conducted on the feeding of formulated feeds to 1,160 head of hogs by 97 commune member households and at 77 farms and brigades in Haiyan County showed a 26 percent increase in speed of growth, and an 18.9 percent decrease in the use of grain. Wuxi produced eating and laying chickens that were a different number of weeks old using pellet food and milk cow formulated feed to feed 4000 chickens. As a result, the total feeding period was shortened by 6 days; the survival rate was increased by 7.35 percent, and feed costs dropped by 0.127 guan. Formulated milk cow feed used in feeding of cows produced 29.65 percent more milk than feeding with a single kind of grain, and each head daily produced 4.23 kilograms more milk while consuming 0.55 kilograms less feed.

As a result of pilot demonstration projects, everywhere throughout the province there is both a selection and promotion of optimum feed formulas, and also an intensification of the enthusiasm of cadres and the masses for use of formulated feeds. Planned adaptation of general methods to local situations in the development of the feed industry has begun to be included in plans at all levels of government. Planning grain, and commercial departments, and research institutions have taken action in

close coordination. All levels of government either have or are now in process of adopting a series of measures to support operation of the feed industry. Within the past several years, the feed industry has produced neither profits nor revenues, but has required a certain amount of subsidization. Gradually feed companies have been set up in cities and counties to act as special production and sales organizations for grain departments. Gradually the state's feed grains and the state's award sales of grains for livestock and poultry products have been assigned to the unified management processing, supply, and issuance as awards by these feed companies. In the setting up of programs, all jurisdictions have worked on the principles of advancing the state and the collective, of combining refurbishing and new construction, demonstration pilot projects, and acting in accordance with capabilities for gradual expansion. The province has refurbished, enlarged, or newly constructed more than 70 formulated and mixed feed plants or workshops, of which more than 50 have already gone into production. In addition, more than 900 communes and brigades are operating small formulated and mixed feed plants or processing sites, on site processing and on site supply sites, which have been greatly welcomed by the masses.

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CSO: 4007/514

RURAL ECONOMY DEVELOPING, LIFE OF PEASANTS IMPROVED

Nanjing XINHUA RIBAO in Chinese 27 Jun 81 p 1

[Article: "Heartening Situation of Rapid Development of Rural Economy of Jiangsu Province; Party's Development of Agriculture and Improvements in the Life of the Peasants have Opened Broad Prospects"]

[Text] On the day when the people of the entire country celebrate the 60th birthday of the great Chinese Communist Party, the broad masses of rural cadres and commune members in Jiangsu Province heartily eulogize the beloved Party and extol the great accomplishments won by the party in leading the broad masses of the peasants in arduous struggle.

It was the party that saved from an abyss of suffering the broad masses of peasants, led everyone in the uprooting of the system of feudal exploitation, guided everybody in the gradual organization of the small farm economy on the basis of socialist public ownership, and conducted large scale capital construction of agricultural production of Jiangsu Province. Even though there have been detours and mistakes in the process of forward movement; nevertheless, extremely encouraging vast achievements have been made on the agricultural front throughout the province. The province's total output value for agriculture in 1980 showed an almost fivefold increase over 1949; total output value for grain increased more than fourfold, for cotton almost 15 fold, and for edible oil more than twofold. Great development also took place in forestry, animal husbandry, sideline industries, and fisheries. The province has established more than 75,500 commune and brigade enterprises, which employ more than 3.8 million people. Annual earnings of these enterprises amount to 10.94 billion yuan or 53.6 percent of total earnings for the three-tiered rural economy. Commune and brigade operated enterprises have become a major integral part of the rural economy of Jiangsu Province. Today the sounds of farm machinery fill the fields, workshops, and even farm homes. Newly built small cities and towns proliferate, and the gap between city and countryside, industry and agriculture has begun to shorten. Along with development of the rural economy has been gradual increase in the standard of living of commune members. In 1980 average per capita distributions to commune members were more than three times greater than in 1957. Since the Third Plenary Session of the 11th Party Central Committee, in particular, the party's adoption of a series of programs and policies for rural villages, notably the establishment of various forms of a system of responsibility for production, respect for the self-determination of production teams, the

adaptation of general methods to local situations in the development of diversification, implementation of the principle of distributions according to work, increases in the procurement prices paid for agricultural by-products, readjustments in requisition procurement quotas, etc. have improved and perfected socialist production relationships, and the enthusiasm of the broad masses of commune members has steadily increased, the superiority of the socialist system has been more fully demonstrated, and an unprecedented situation of prosperity has appeared or is in process of appearing in the rural villages of Jiangsu Province.

General Situation of Commune and Brigade Enterprises in Jiangsu Province, 1980

Total Number of Enterprises	75,500
Total Number of Employees	3,886,100
Total Income of Enterprises:	10.947 billion yuan
Proportion of total output value of agriculture	73 percent
Taxes paid	561 million yuan
Funds used to support agriculture	300 million yuan
Wages paid	1,657 billion yuan
Average per capita earnings, for the province's agricultural population	32.50 yuan

Total Output Value From Agriculture for the Province (100 Million Yuan)

1949:	30.19
1978:	124.36
1979:	139.64
1980:	146.93

Total Grain Production (100 Million Jin)

1949:	149.7
1978:	454.72
1979:	485.81
1980:	450.75

Total Cotton Production (10,000 Dan)

1949:	56.16
1978:	948.95
1979:	1063.39
1980:	832.81

Total [Edible] Oil Production (10,000 Dan)

1949:	310
1978:	668.53
1979:	758.37
1980:	655.18

Live Hogs On Hand at Year End (10,000 Head)

1949:	414.6
1978:	2161.05
1979:	2356.06
1980:	2088.75

Total Aquatic Products (10,000 Tons)

1949:	5.04
1978:	39.76
1979:	38.92
1980:	42.71

Average Per Capita Distributions to Commune Members (Yuan) (Not Including Income to Commune Members for Manure Provided)

1949:	39.2
1978:	85.4
1979:	99.2
1980:	94.6

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CSO: 4007/523

BRIEFS

RAPESEED SALES PROBLEMS—Comrade Editor: This year brought a bumper rapeseed harvest. At the Tanqiao Commune in Liyang County, rapeseed output was double the 1980 all-time record. Some commune member households had more than 1000 jin; some production teams had more than 10,000 jin, and the rapeseed requisition purchase and excess purchase quotas handed down by higher authority have been fulfilled and overfulfilled. However, the rapeseed harvested from commune members' private plots, and the rapeseed awarded for overfulfillment of production quotas have been very difficult to sell. Pricing, award sales of chemical fertilizer, and return of seed cake policies also do not give equal treatment without discrimination. The rapeseed in overfulfillment of quotas sold collectively by production teams goes for 54 yuan per jin, but the commune member privately negotiated price is 52 yuan per jin. For every 100 jin of rapeseed collectively sold, award sales of 15 jin of chemical fertilizer are granted, and 50 jin of rapeseed cake is returned to the seller. For the commune household, however, there is nothing similar when rapeseed is sold. Additionally, if a commune member household asks for payment in cash when he sells rapeseed, the departments concerned stipulate a non-cash accounting. Now, a new regulation here provides for no purchases of negotiated price rapeseed from private commune members, notice to be given whenever purchases are resumed. The masses of commune members are very upset about this and worry about not being able to sell their excess rapeseed. Tanqiao Commune, Liyang County. Li Weizhang [2621 4850 1757], Peng Huafeng [1756 5478 6917], and Yang Wuya [2799 0124 5895]. [Text] [Nanjing XINHUA RIBAO in Chinese 7 Jul 81 p 2] 9432

COTTON PLANTS PUDDING—Cotton plants in Jiangsu are growing well and budding. The 5 million mu of transplanted cotton now have 4-5 fruiting branches per plant on the average, while the 3 million mu that were planted by direct-sowing have 1-2 fruiting branches per plant. Buds begin to appear on more than 1 million additional mu. [Nanjing XINHUA RIBAO in Chinese 13 Jul 81 p 1]

CROP CULTIVATION—The peasants in Donghai County, Jiangsu Province, are cultivating 270,000 mu of peanuts and 680,000 mu of rice at present. They are taking effective measures to eliminate pests and insure good growth of the crops. [Nanjing Jiangsu Provincial Service in Mandarin 1100 GMT 29 Jul 81]

JIANGXI

BRIEFS

RICE PRODUCTION—As of 29 July, the peasants in Yifeng County, Jiangxi Province, transplanted 61,000 mu of late rice, accounting for 55.4 percent of the planned late rice acreage. [Nanchang Jiangxi Provincial Service in Mandarin 1100 GMT 3 Aug 81]

CSO: 4007/541

EXISTENCE OF 'PRIVATE PERSONS' NOT A RETURN TO CAPITALISM

Jinan DAZHONG RIBAO in Chinese 9 Jun 81 p 2

[Article by Yan Shi [1484 4258]: "Discussion of 'Private Persons'"]

[Text] The Party Central Committee and the State Council have pointed out in the directive on actively developing diversification in farm villages: "Except during the busy farming seasons, some part-time laborers and auxiliary laborers should be allowed to be excused from collective work so that they may concentrate on managing family sideline activities, within their own capabilities (i.e., allowing the presence of 'private persons,' as described by the masses)." Recently, we went to Jinning and Heze prefectures to conduct farm village surveys, and what we saw and heard made us realize profoundly that this regulation by the Party Central Committee and the State Council is completely correct. It coincides with the actual situation of more people and less land in our nation's farm villages, and realizes the will of the millions of farmers. It will surely further mobilize the enthusiasm, initiative, and creativity of the individual commune members and forcefully promote the development and prosperity of the farm village economy.

But because of the influence of "leftist" mistakes, some people believe that "private persons" are "capitalists," and that allowing families of commune members to have "private persons" will affect collective production and lead to the "liberalization" of diversification. Facts prove that these views and worries are unfounded. So-called "private persons" are persons in a family who specifically take care of family sideline production and manage private plots. Family sideline activities and private plots are allowed in the party's policy as supplements to the socialist economy. Therefore, "private persons" engaging in family sideline activities and managing private plots are not capitalists. Also, whether there are "private persons" and how many there are to be are all determined by the prerequisites of assuring that the collective can complete its productive tasks and of determining the actual situation of each family's labor force. They can be changed at will, and of course they do not affect collective production. As for the saying that allowing "private persons" will lead to the "liberalization" of diversification is also unfounded. The gross production items of diversification in farm villages are uniformly managed by the collective. Those managed by the "private persons" involve only the use of small amounts of resources for engaging in scattered small items. Their products are procured in part by the supply and marketing cooperative, in part for export, and in part for sale on

the market. These are all operations along the road of socialist economy, and "liberalization" will not occur.

In the survey, we saw that allowing commune member families to have "private persons" has many benefits. Generally speaking, there are three: the first is that it can fully exploit the potential of labor resources and local material resources. "Private persons" are a simple, convenient, and easy way of solving surplus labor. It can allow part-time laborers and auxiliary laborers to do whatever they can, and it can allow skilled craftsmen and persons with technical skills in farm villages to practice their skills. The raw materials they use for sideline production are all local materials. This will fully and rationally utilize the scattered resources and create wealth for the society. The second [benefit] is that it can increase the income of commune members. The party branch secretary of the Dongmagai Brigade of Heze County said that last year the eight members of his entire family has a total income of nearly 5,000 yuan. Of this amount, 3,000 yuan came from the distribution of foodgrain and cotton production contracts of the production team and industrial and sideline production, while the remaining nearly 2,000 yuan was earned by a "private person" raising cattle. It seems that allowing "private persons" to specifically engage in family sideline activities is one way for farmers to create wealth and become rich. The third is that it benefits a prosperous economy, activates the market, and suits the various needs in the lives of the people in the towns and villages. Many "private persons" are skilled craftsmen, have technical skills, and can produce many unique handicrafts. Other "private persons" engage in various kinds of weaving, repair work, and catering services, which can provide a great convenience to the masses. The majority of "private persons" are engaged in raising domesticated animals and planting private plots. They also serve an important function in making the market prosper and in satisfying the needs of the people.

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CSO: 4007/472

MERITS OF ALLOWING PRIVATE PLOTS EXTOLLED

Jinan DAZHONG RIBAO in Chinese 9 Jun 81 p 2

[Article: "The Potential of Private Plots Is Great, and They Cannot Be Neglected-- Investigating the Question of Private Plots"]

[Text] Since the Third Party Plenum, the 94 production teams of the Chengguan Commune of Shouguang County already have 68 private plots, covering an area of 3,100 mu, zoned for commune members. Surveys show that the income potential of private plots is great, and they cannot be neglected.

Whether There Are Private Plots or Not Makes a Big Difference

Xiyu Brigade took all private plots and handed them over to the collective some years ago. The 750 people of the entire brigade then worked on 1,300 mu of large fields, production efficiency was low, the cost was high, annual total income was only some 60,000 yuan, and the average per capita income of commune members was less than 70 yuan. In the autumn of 1979, the brigade implemented the spirit of the Third Plenum, slated 53 mu of land as private plots, and redistributed them to commune members--an average of 7 li per person. Commune members planted Chinese chive, celery, cauliflower, and Chinese lettuce in private plots while doing well the work of collective production. Last year, 120,000 jin of vegetables were produced, generating a new income of over 50,000 yuan. Each family's income was 350 yuan, and per capita income was 70 yuan. The income from the 53 mu of private plots constituted 77 percent of the total income from the collective, while the sum of the income from the collective and the income from the private plots was equal to twice the brigade's total income the previous year. The sum of the per capita average income from the two [sources] was equal to twice the per capita distribution of the previous year. Party branch secretary Xu Baonin [6079 0202 3046] profoundly realized that having or not having private plots makes a big difference!

Early Distribution Is Better Than Late Distribution

Xianbei Brigade and Zhaojia Brigade are neighbors. In the past, Xianbei Brigade lagged behind Zhaojia Brigade. But during the 10 years of chaos, Xianbei Brigade retained private plots, the income and gain of the commune members were large, and they became rich quickly. Last year, the private plots produced over 100,000

jin of vegetables, net income was 47,000 yuan, per capita income was 130 yuan, and with the addition of 72 yuan 5 jiao distributed by the collective, each person received over 200 yuan. Now, the entire brigade's families have bicycles, most farm families have sewing machines and watches, and over 90 percent of the farm families have savings in the bank.

Zhaojia Brigade, however, took back private plots several years ago. The communes received only some 80 yuan worth of things from the collective, and their life was not as good as that of Xianbei Brigade. The year before last, the brigade implemented the party's policy and rezoned 31 mu as private plots for the commune members to plant. Net income reached 39,000 yuan last year, and the per capita average was 70 yuan. With the addition of the distribution from the collective, average per capita income came to 167 yuan. Because the private plots were distributed late, commune members were financially weak and the degree of prosperity of their lives lagged far behind that of Xianbei Brigade. The party branch secretary, Liu Wenyu [0491 5686 3768], said: "Early distribution of private plots is better than late distribution of private plots. In the past, I took back the private plots of commune members. This was wrong, and now we have paid!"

Planting by the Collective Is Not as Good as Planting by the Individual

In some production brigades, the commune members' private plots are uniformly planted by the collective, in the belief that planting by the collective and planting by the commune members are the same. But Haojia Brigade's experience shows that planting by the collective and planting by the individual are not the same.

Haojia Brigade has 50 families, totaling 210 people. In the past, the brigade took over the 7 mu of private plots of the commune members, planted vegetables collectively, and distributed the produce to the commune members. In this way, the collective had to provide four laborers to plant vegetables each year. It also had to provide seeds, chemical fertilizer, farm chemicals, and irrigation costing over 700 yuan. The result was a lot of work, high cost, and little income. The maximum yield of vegetables per year was 4,200 jin; each person received a ration of 20 jin of vegetables; and the problem of vegetables for commune members could not be solved.

In the autumn of 1979, they redistributed the 7 mu of private plots to farm families for planting, with each person planting 3.3 li of land. Some families planted chive sprouts and celery last year, while some families planted cucumbers and tomatoes. They produced a total of over 50,000 jin of vegetables, and besides satisfying the personal consumption of the commune members, they sold the produce and earned an income of 21,000 yuan, or 100 yuan per person. The party branch secretary of the brigade, Hao Shusheng [6787 2885 3932], said with profound realization: "Allowing farm families to plant private plots enables us to dig for the potential in man and the land better than planting by the collective."

TALAN PREFECTURE INCREASES WATER CONSERVANCY PROJECTS TO FIGHT DROUGHT

Jinan DAZHONG RIBAO in Chinese 24 Jun 81 p 1

[Article: "Field Water Conservancy Construction Plays Major Role in Fighting Drought; Since Spring This Year, Taian Prefecture Has Diverted or Lifted 1.19 Billion Cubic Meters of Water To Irrigate 2.9 million Mu of Wheat Twice and To Assure On Time Planting of 2.78 Million Mu of Spring Crops"]

[Article: Taian Prefecture's field water conservancy projects have shown tremendous power in combating this year's drought to save the wheat and to save spring planting.

In 4 consecutive years of capital construction of farmlands beginning in the winter of 1975, Taian Prefecture has built seven large and medium size reservoirs, 87 small reservoirs, and 530 dams to increase water storage capacity by 310 million cubic meters. It has sunk 16,400 new wells, installed pumps on 14,000 wells, and built water pumping stations at 479 places, extending the irrigated area by a total of 840,000 mu in addition to existing water conservation facilities. Since Spring of this year, the total quantity of water diverted or lifted has been 1.19 billion cubic meters for the watering more than twice of the prefecture's 2.9 million mu of wheat, and to assure planting on time of 2.78 million mu of spring crops. Formerly when some communes and brigades encountered a drought as serious as this year's, they would harvest nothing. But now, because these places have water, the spring seedlings are flourishing, and wheat yielded a bumper harvest. Manzhuang and Xiazhang communes in the western part of Taian County are notorious drought areas in the county. Now, however, as a result of the building of victory ditches and victory reservoirs in upper reaches, the more than 60,000 mu of wheat in the two communes has been watered twice, and in a year of severe drought, the wheat still produced a harvest better than last year's. The Wuyan electric irrigation station in Dongping County began raising water from the Daqing River on 11 March. As of the end of May it had already raised 2.06 million cubic meters to water 18,000 mu of wheat fields three and four times, and to water 11,000 mu of spring fields as well.

The struggle against drought has also aroused the broad masses of cadres and commune members to do further water conservancy construction. As a result of needs to combat drought, numerous communes and brigades have adjusted general methods to local situations to build some small water conservancy projects. Statistics show that since the lunar New Year, the prefecture has worked on 7,948 separate water conservancy projects including sinking of new wells, repair of ditches, digging of

springs, damming of waterflow, and building of pumping stations, of which 5,755 projects have already been completed. of these, newly sunk wells fitted with pump number 594; existing wells newly equipped with pumps number 475; and pump wells from which potential has been more fully tapped number 851, thereby making available new water resources, enlarging the irrigated area, and increasing capacity to combat drought. In order to meet urgent needs to fight drought, Ligou Commune in Pingyin County organized 600 laborers for a steady month long effort to extend 1,800 meters of "banbianjing" [0584 6708 0064] reservoir irrigation ditches, not only enlarging the natural flowing irrigation of 200 mu of land, but also solving the problem of water so that seeds could be dibbled on 3,000 mu of spring fields. In addition to making full use of existing reservoirs and catchments to fight drought, the Xiangang Commune in Taian County also interdicted the flow of the river at 137 places, dug more than 280 mountain pools and ponds, and built 18 small pumping stations.

The facts in the struggle against drought demonstrate once again that water conservancy is the lifeblood of agriculture. Development of the capital construction of farmlands, improvement in the conditions of production, and enlargement of the irrigated area are fundamental measures for hastening the development of agriculture. Taian Prefecture plans to provide the necessary workforce this winter and next spring to build and equip some small scale projects from which results may be obtained in the same year in order to promote development of agricultural production.

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CSO: 4007/514

SYSTEMS OF RESPONSIBILITY FOR PRODUCTION USED IN SHANDONG DESCRIBED

Jinan DAZHONG RIBAO in Chinese 26 Jun 81 p 1

[Article: "More Than 95 Percent of Rural Accounting Units in Shandong Province Have Instituted Various Forms of a System of Responsibility"]

[Excerpts] Since the Third Plenary Session of the 11th Party Central Committee, Shandong Province has conscientiously implemented a series of major documents and instructions from the Central Committee on hastening the development of agriculture, achieving fine results in the steady eradication of "leftist" influences, and the adaptation of general methods to local situations for the building and perfection of various forms of a system of responsibility for agricultural production. Of the nearly 400,000 basic accounting units in the province, more than 95 percent have established a system of responsibility for production. Those using a system of specialized contracting, with calculation of remuneration being linked to output to the workforce amount to 30.3 percent. Those with a system whereby all quotas are fixed for payment of a single reward, with production being linked to teams number 6.3 percent. Those with a system of fixing output quotas on a household basis or fixing work quotas on a household basis number 25.5 percent, and those with a system whereby small segments of work are contracted for, with remuneration being calculated on the basis of fixed quotas amount to about 20 percent. Establishment and perfection of systems of responsibility has effectively brought into play the superiority of a collective economy, has aroused the enthusiasm for labor of commune members, has promoted development of agricultural production, has increased the earnings of the collective and of individual commune members, and a fine situation of political stability, economic prosperity, and peasant content has arisen in the far flung rural villages.

The fundamental objective in establishing systems of responsibility is to combine full play of the superiority of the collective economy with arousal of the initiative of individual commune members for further emancipation of agricultural productivity, advancement of the all around development of agriculture, and increase in the earnings of the collective and of commune members. Since the Third Plenary Session, the province has had consecutive years of bumper harvests in agriculture. Both per unit yields and total production of grain, cotton, and peanuts have created all-time records. In the forestry, animal husbandry, sideline, and fishery industries too, varying degrees of development has taken place. Last year, gross earnings for the province's production brigades and production teams totaled 13.84 billion

yuan, a 2.1 billion yuan increase over the previous year, for a 17.9 percent increase. Expenditures as a proportion of total revenues dropped from 39.9 percent in 1979 to 36.3 percent. Average per capita distributions to commune members were 105.20 yuan. They increased by 13.10 yuan in 1979 and again increased last year by 23.70 yuan, increases for the 2 years totaling 36.80 yuan. Some comparatively prosperous counties, communes, and production brigades also came into being. Counties and municipalities in the province in which distributions per capita averaged more than 200 yuan numbered 12, an increase by 10 over the previous year. There were 14 communes with average per capita incomes of 300 yuan, an increase of 13 over the previous year. Production brigades with average per capita distributions of more than 300 yuan numbered 644, a 597 increase over the previous year. In Yantai Prefecture, distributions per capita averaged 191 yuan, a 35 yuan increase over the previous year. In the long poverty stricken and backward four prefectures in the northwest, per capita distributions averaged 87.30 yuan, a 36.40 yuan increase over the previous year. In strengthening and perfecting systems of responsibility for agricultural production in Shandong Province, development remains uneven, and even in units where a fairly good job has been done there are some new problems requiring study and solution. Right now all jurisdictions are involved in diligent summarization of the lessons of experience for the adoption of measures for improvements so that various forms of a system of responsibility will be further perfected.

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CSO: 4007/523

BRIEFS

SUMMER GRAIN PROCUREMENT OVERFULFILLED--Shandong reaped a "good harvest" from its summer grain crops this year despite severe droughts. Following the "bumper harvest," the rural cadres and masses enthusiastically delivered grain [as agricultural tax] and sold their surplus grain to the state. By 10 July, 2,803 million jin of summer grain had entered state granaries, overfulfilling the procurement task assigned by the state. The date of fulfillment was 1 month earlier than that of last year, and the quality of grain delivered was superior to that of previous years. [Jinan DAZHONG RIBAO in Chinese 13 Jul 81 p 1]

PEANUT SOWING COMPLETED--Shandong has planted 1.17 million mu of summer sown peanuts. When spring peanuts are included, a total of 9.5 million mu have been planted, thus overfulfilling this year's peanut sowing plan. Most of the seedlings are growing well. Among the 159,300 local production teams growing peanuts, over 95 percent have set up some form of production responsibility system this year. [Jinan DAZHONG RIBAO in Chinese 18 Jul 81 p 1]

CSO: 4007/540

BRIEFS

WENXI COUNTY BUMPER WHEAT PRODUCTION--The 480,000 mu of wheat in Wenxi County of Shanxi yielded a record harvest this year with both per-mu and total yield exceeding last year's by more than 100 percent. The total output was over 150 million jin, or 5.9 percent higher than the former record yield of 1976. The yield from this single crop of wheat this year even exceeded the total grain output of last year by more than 8 million jin. In some wheat growing communes and brigades, the average per capita production of wheat was 1,000 jin this year. [Taiyuan SHANXI RIBAO in Chinese 13 Jul 81 p 1]

QUWO COUNTY WHEAT PROCUREMENT--Following a bumper wheat harvest, commune members in Quwo County, Shanxi, enthusiastically paid their agricultural tax in grain and sold surplus grain to the state, fulfilling this county's wheat procurement quota of 12 million jin by 3 July. In addition, they have sold to the state 950,000 jin of wheat over and above the procurement quota, and such sales are still underway. [Taiyuan SHANXI RIBAO in Chinese 13 Jul 81 p 1]

TECHNOLOGY CONTRACTS SIGNED--In Ji County 1,120 peasant households have signed 1,002 contracts with county and commune science and technology units. Following institution of systems of responsibility for production, the enthusiasm of the broad masses of peasants for scientific farming reached unprecedented heights. However, they were dissatisfied with the former method of relying on administrative organizations, and administrative orders that coerced promotion of science and technology. How to solve this contradiction? the secretary of the County CCP Committee, An Kang [1344 1660] paid a visit to Fan Jiexu [5400 4814 4958], a commune member in Zhongduo Brigade. This person used to be a "native expert" in scientific farming. This year, his household of four people had contracted production on 7 mu of autumn fields for production of a fixed quota of 370 jin per mu. He was planning to do a scientific experiment, but he was apprehensive lest use of new techniques might result in a drop in yields and the unfulfillment of the quotas for which he had contracted. An Kang introduced him to the signing of a contract with the County Agriculture Techniques Promotion Station for experiments in applying only chemical fertilizer and herbicide on corn. The Agriculture Techniques Promotion Station would be responsible for supplying seeds, fertilizer, and technical guidance. He would assure doing things in accordance with technical operating regulations and keep good records of the experiments. If as a result of improper technical measures output dropped, the technical promotion station would make compensation. If reduced yields resulted from violation of operating regulations, he would be responsible himself. All increases in yields would go to the peasant himself. Such a system would make the farm technology department have a sense of responsibility and would make the peasant get rid of his fear of losing yield. The departments concerned have promptly promoted this method, and throughout the county 1,120 peasant households have signed 1,002 technology contracts. [Text] [Taiyuan SHANXI RIBAO in Chinese 16 Jun 81 p 1] 9432

BUMPER GRAIN OUTPUT ACHIEVED IN RECENT YEARS

Chengdu SICHUAN RIBAO in Chinese 13 Jul 81 p 2

[Excerpt] Due to the interference by the "gang of four," Sichuan's agriculture was close to total failure in 1976 when its total grain output was down to 49.7 billion jin, its per capita grain consumption was only 369 jin, and its per capita distribution income was 53 yuan. After the downfall of the "gang of four," bumper harvests were achieved in 4 consecutive years between 1977 and 1980. Grain production rose by a total of 15.5 billion jin in these 4 years. The total output reached 65.2 billion jin, and the average annual increase was over 3.8 billion jin. The highest annual increase was 6.3 billion jin. With the exception of a small number of items, the majority of multiple undertakings also registered a much higher output, particularly in rapeseed and live pig production. By the end of 1980, the number of live pigs in inventory was 51.46 million head, the number of pigs removed from inventory [during 1980] was 31.27 million head, and the number in inventory was 66 percent higher than that of 1976. The total rapeseed output was 11.63 million dan [as published], an increase of 111 percent over 1976. The total income of basic accounting units was 11.2 billion yuan; the average distribution income of commune members was 82.8 yuan, an increase of 54.4 percent over 1976; and the per capita grain consumption was 527 jin.

CSO: 4007/540

BRIEFS

DIVERSIFIED ECONOMY--Yongkang County, Zhejiang Province, has further developed diversified economy in rural areas. Its total output value from diversified economy in rural areas in 1980 reached 44.42 million yuan in the county, accounting for 50.6 percent of the total output from agricultural production in that year. [Hangzhou Zhejiang Provincial Service in Mandarin 1040 GMT 27 Jul 81]

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Genetics

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TITLE: "The Investigation of the Inheritance of Fertility of the Offspring Produced by Interspecific Hybridization and Backcrossing between Autotetraploid Asiatic Cotton (Gossypium arboreum) and Upland Cotton (G. hirsutum)"

SOURCE: Beijing YICHUAN XUEBAO [ACTA GENETICA SINICA] in Chinese No 2, Jun 81 pp 149-157

TEXT OF ENGLISH ABSTRACT: For the purpose of breeding a cytoplasmic male sterile type in cotton, the cross of the autotetraploid Asiatic cotton (produced by treating diploid Asiatic cotton with colchicine) with American Upland cotton as the male plant was performed in 1973; several cross-pollinated seeds were obtained. The resulting hybrid F₁ used as the female plant was backcrossed repeatedly with Upland cotton for several years. By the end of 1979, F₁ and the offspring of four generations of backcrossing had been obtained. A study of the genetic variability of fertility of these materials was carried out.

The autotetraploid Asiatic cotton was completely male sterile, and no self-pollinated seeds were produced. When the autotetraploid cotton was pollinated with Upland

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pollen, some bolls with one or more viable seeds were set. The lowest fruiting percentage of the plants of the autotetraploid Asiatic cotton x Upland in 1976 was 5.3 percent, and the highest was increased to about 40 percent in 1975 and 1979. By using Upland cotton as the recurrent male plant in backcrossing with F₁ hybrids as the female plant, the fruiting percentage of the backcrossed plants was 0-6 percent. The BC₁F₁ plants formed no bolls when they were pollinated by Upland cotton pollen, with the exception of one plant which set two bolls in one year from 20 flowers which were pollinated with Upland cotton pollen. But the fruiting percentages of backcrossed plants was raised to 0-2 percent as the plants of BC₁F₁ overwintered in the greenhouse. Two BC₂F₁ plants were obtained and only one of them grew up normally. The fruiting percentage of these plants was greatly increased, up to 70-80 percent, due to backcrossing. The plants of BC₃F₁ and BC₄F₁ populations both segregated into male fertile and male sterile types. The male sterile plants of BC₃F₁ and BC₄F₁ showed different responses to temperature. As the temperature was low in the field (before the beginning of July and after the end of August), a portion of the male sterile plants showed their fertility recovered and produced by bolls by self-pollination, while another portion of the male sterile plants remained self-sterile during the whole flowering stage and no self-pollinated bolls could be found.

The viability of the pollen of the interspecific hybrids and the offspring of backcrossing was studied by biological and chemical approaches in our laboratory. The

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chromosome behavior at meiosis in F_1 hybrids of the autotetraploid Asiatic cotton x Upland and in the offspring backcrossed by Upland was also studied.

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TITLE: "Green Plants Regenerated from Isolated Rice Pollen Grains In Vitro and the Induction Factors"

SOURCE: Beijing YICHUAN XUEBAO [ACTA GENETICA SINICA] in Chinese No 2, Jun 81 pp 158-163

TEXT OF ENGLISH ABSTRACT: Oryza sativa subsp. keng was used as the experimental material in this study. Rice panicles with microspores at late uninucleate stage were collected and pre-treated at about 10°C for 10-30 days. Pollen grains were isolated and prepared in either of the following ways: (1) Preculturing the anthers on liquid medium for 2-4 days, then separating the pollen grains by the crush method (Nitsch, 1974), and preparation at a concentration of 2×10^4 microspores per ml; (2) Anthers were inoculated by a liquid medium, where pollen grains were continuously liberated from the anthers and were then transferred to a fresh medium periodically. The free pollen grains shed at various times from the anthers were duly collected.

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Isolated microspores were then incubated in the shallow layer of a liquid medium. The media used for cultures were: (1) N_6 medium supplemented with: serine, 100 mg; glutamine, 800 mg and m-inositol 5 g per liter as is done by Nitsch, or lactalbumin hydrolysate (LH) 500 mg/l; (2) Conditioned medium prepared with N_6 + LH medium, in which anthers were incubated for seven days, and then were removed with free pollen by centrifugation; (3) Potato medium, potato extract 20 percent (W/V) plus one half nitrogen source of N_6 medium. All these media contained 2, 4-D 2 mg/l and sucrose 3 percent.

The results obtained are as follows:

1. Isolated pollen grains only gave some multicellular masses and calli when anthers were not precultured, but pretreated at low temperatures for about 10 days.
2. Several green and albino plantlets regenerated from the pollen grains when anthers were precultured for 2 days and pretreated at low temperatures for about 20 days.
3. Many calli and green and albino plantlets were obtained from those anthers pretreated for 10 days and precultured more than 3 days. As high as 30 percent frequency of callus differentiation could be attained.
4. The initiation and sustained divisions of microspores and even the differentiation of the calli were strongly influenced by anther cold-pretreatment and preculture. If the anther preculture was maintained for less than two days, plantlets were not regenerated. Anther cold-pretreatment not only could doubly increase the

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frequency of calli induction from isolated pollen, but also had a replacing effect on anther preculture.

5. When the potato medium was used in callus induction, more plantlets, especially green ones, could be regenerated than from other media.

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TITLE: "Giemsa Banding of Maize (Zea mays) Chromosomes"

SOURCE: Beijing YICHUAN XUEBAO [ACTA GENETICA SINICA] in Chinese No 2, Jun 81
pp 175-179

TEXT OF ENGLISH ABSTRACT: The main results obtained are presented as follows:

1. Comparison of Giemsa differential staining with aceto-carmin staining.

It was shown that there was a small knob on the short arm of chromosome 9 and that the satellite on the short arm of chromosome 6 is small with common aceto-carmin staining technique. However, with Giemsa staining technique, the terminal knob on the short arm of chromosome 9 and the satellite on chromosome 6 were prominent. In addition, there were small knobs or bands on the long arm of chromosomes 1, 2, 6 and 7. These small knobs or bands could not be seen with the conventional aceto-carmin staining technique.

2. Giemsa banding of meiotic chromosome.

It was observed that at the zygotene stage homologous heterochromatic telomeres apparently began to fuse. At the pachytene stage most of the bands or knobs were situated in the subterminal region of the chromosomes. At the diplotene and diakinesis stages, 8 of the 10 chromosomes had prominent heterochromatic bands, with the other two showing no banding.

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3. Giemsa banding of mitotic chromosome.

By applying the Giemsa staining technique to the mitotic chromosomes, it was found that Giemsa bands were discernible at all the main mitotic stages of the maize. At the metaphase, prominent heterochromatic bands were present on 8 of the 10 pairs of chromosomes, with the other two pairs showing no banding.

In our experience, the Giemsa banding technique can bring out more bands or knobs than can the common aceto-carmin technique. Therefore, the Giemsa technique might be very useful in distinguishing heterochromatin from euchromatin in maize chromosomes, and might open up a new vista in the cytogenetics of maize.

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TITLE: "Genetic Research on the Chimera of Awned Mutations in M_1 Generations of Triticum aestivum"

SOURCE: Beijing YICHUAN XUEBAO [ACTA GENETICA SINICA] in Chinese No 2, Jun 81 pp 180-188

TEXT OF ENGLISH ABSTRACT: Stadler (1945) and Nybom (1954) considered that all new mutation in a spike of the M_1 generation would be heterozygous. According to this hypothesis, if a mutation is recessive, its effects will appear only in the M_2 generation, a view that has been generally received up to now.

This article reports the experimental results of γ -ray induced chimera of awned mutation in the M_1 generation of Triticum aestivum L. Dry seeds of 10 varieties (or lines) were treated with γ -rays of ^{60}Co during 1977-1979. As a result, seven varieties were induced chimera of awned mutation. Among these treated varieties (or lines), the "Great Dragon No 1" continued to show this chimera for three years.

Results of genetic research are presented as follows:

1. Awned mutation of chimera is a recessive mutation. When the awned mutant was backcrossed with a tipped parent, first generation hybrids were all tipped and the F_2 generation was segregated as the Mendelian ratios.

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2. The spikes of awned mutation of the chimera kept their characteristics and did not segregate in the offspring.
3. When we irradiated the seeds of the awned mutant with γ -rays, the mutation could change back to being tipped.
4. The chromosome morphology and chromosome number of the pollen mother cell and somatic cells of the mutant did not produce any conspicuous changes that could be recognized visually.

These results suggest that awned mutations of chimera in the M_1 generation are a recessive gene mutation. The genotypes of possible mutants have changed from $B_1B_1b_2b_2$ to $b_1b_1b_2b_2$. Our experiments show a homozygous recessive mutation might occur in the M_1 generation. The M_1 generation is worthy of note as a mutation generation.

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